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AMSAT NEWS SERVICE
ANS-356

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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SB SAT @ AMSAT $ANS-356.01
ANS-356 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 356.01
  From AMSAT HQ SILVER SPRING, MD.
December 22, 2013
To All RADIO AMATEURS
BID: $ANS-356.01

Saudisat 1C, SO-50, Eleven Years in Orbit

Now known as SO-50, Saudisat 1C is a Saudi Arabian picosatellite that was launched by a Dnepr rocket from Baikonur at 17:00 UT on December 20, 2002. SO-50 features a "Mode J" FM amateur repeater operating on a 2M uplink and a 440 downlink.

"Most hams already own the necessary equipment to work SO-50," reports long time AMSAT Area Coordinator Clint Bradford, K6LCS.

"It is preferable to work SO-50 in true, full-duplex mode - so you can hear the
downlink as you transmit. This means - for most - using a second radio or the Kenwood TH-D72A and its true full-duplex capability.

SO-50's repeater is available to amateurs worldwide, and it uses a 67.0 Hertz PL tone on the uplink. SO-50 also has a 10 minute timer that must be armed before use. If you know the satellite is there - but there is nothing heard - you may need to shoot it a PL tone of 74.4 to turn it ON!

The repeater consists of a miniature VHF receiver with sensitivity of -124dBm,

with an IF bandwidth of 15 KHz. The receive antenna is a 1/4 wave vertical mounted in the top corner of the spacecraft. Its UHF transmitter is a mere 250 mW, and downlink antenna is a 1/4 wave mounted in the bottom corner of the spacecraft and canted at 45 degrees inward.

"Hams just with Technician licenses can work the satellite," Clint continues. "We are talking about weak signals from 500 miles away - so improving both your
TX and RX antennas is critical for success on this satellite."

"Do not forget to accommodate for the Doppler phenomenon on the 440 receive side."

[ANS thanks Clint, K6LCS, for the above information]

NASA Space Life Sciences Training Program Applications Open

The Space Life Sciences Training Program (SLSTP) provides undergraduate students entering their junior or senior years with professional experience in space life science disciplines. This challenging ten-week summer program is held at NASA's Ames Research Center in California's Silicon Valley. The primary goal of the program is to train the next generation of scientists and engineers, enabling NASA to meet future research and development challenges in the space life sciences.

For more information, visit: http://spacebiosciences.arc.nasa.gov/slstp

The SLSTP is an equal opportunity program. Admission is by competitive application process. U.S. Citizen undergraduate students who maintain a 3.2 or higher grade point average are invited to apply. Past student participants were selected for their merit, passion for space and desire to study space life science.

Applications for the SLSTP will be submitted through NASA's One Stop Shopping Initiative (OSSI) website. Prospective applicants must pre-register for a student account and create an interest profile on the OSSI student login page. Links to the OSSI website are included on the SLSTP page (above).

Although the application period for summer 2014 student internships closes on March 15, 2014, offers for positions may be made as early as Feb. 2, 2014. Students are encouraged to submit their applications early. Details about the 2014 SLSTP internship opportunities will be posted on the SLSTP website in December.

[ANS thanks the NASA Ames Research Center for the above information]

ISS Cooling Pump Repair Delays Cubesat Missions

The ARRL reports Expedition 38 Astronauts Mike Hopkins, KF5LJG, and Rick Mastracchio, KC5ZTE, will leave the confines of the International Space Station (ISS) December 21, 23, and 25 to repair a faulty cooling system pump.

The malfunction has already caused the postponement of one Amateur Radio on the

International Space Station (ARISS) school contact. It's unclear if the ISS problem will affect additional ARISS school contacts.

Planet Labs CubeSat Constellation

Also postponed is the shipment of four amateur radio 1U CubeSats LituanicaSAT-1,
LitSat-1, ArduSat-2, UAPSat-1, the 915 MHz CubeSat SkyCube and 28 CubeSats (3U) from the company Planet Labs. The CubeSats were to have been sent to the ISS on an Orbital Sciences Antares-120 rocket on December 18 but this launch will not now take place until January.

LituanicaSAT-1 with amateur radio FM transponder to deploy from ISS
http://amsat-uk.org/2013/04/12/lituanicasat-1/

LitSat-1 amateur radio frequencies announced
http://amsat-uk.org/2013/09/11/litsat-1-amateur-radio-frequencies-announced/

ArduSat Open Source Ham Radio CubeSats
http://amsat-uk.org/2013/08/09/ardusat-open-source-ham-radio-cubesats/

UAPSat-1 http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=210

SkyCube to use 915 MHz CubeSat Ground Station Network
http://amsat-uk.org/2012/08/25/skycube-to-use-915-mhz-cubesat-ground-station-network/

In the United States and a number of other countries 915 MHz is an Amateur Radio
allocation. In the UK the regulator Ofcom plan to make 915-921 MHz license exempt http://stakeholders.ofcom.org.uk/consultations/short-range-devices/

[ANS thanks ARRLL and AMSAT-UK for the above information]

Delfi-N3XT Update

Delfi Nanosatellite Program Manager, Jasper Bouwmeester PC4JB, provides this update on the Delfi-n3Xt amateur radio satellite which was launched November 21 and carries a 435/145 MHz linear transponder.

Dear radio amateurs,

Today, December 19, we have switched from the ISIS transmitter (ITRX) to the Primary Transmitter (PTRX). This radio seems to have a significantly stronger signal, so it should be easier to receive telemetry. The frequency is a bit higher, 145.930 MHz so you will have to retune. I hope this will help some of the radio amateurs who had trouble in decoding Delfi-n3Xt.

We have also put the S-band transmitter (STX) back in beacon mode on 2405.000 MHz. As the onboard patch antenna is however pointing in arbitrary direction, it
is a matter of luck if it is pointed towards a ground station. In about 10% of the passes it should in theory be possible to receive the signal with a >2.5m dish, but I have to admit that it is only going to be fun to try to receive the signal for those people who like to be the first and have the proper equipment.

Unfortunately we have not yet been able to make a new update of the DUDe client.
The first issue we want to tackle for the new version is the frequency freeze.

After a while, DUDe seems to lock itself at an edge of the band. Currently this means, that DUDe needs to be restarted before a pass. As temporary solution in case you want to track the satellite automatically, you may use an auto-mouse clicker to close and re-open DUDe. But I hope we will be able to fix this issue early next year.

Finally, I would like to state that you may replay your SDR recordings a few times to increase packet decoding as our server can handle more load. Our statistics page however currently does not exclude doubles from a single radio amateur, so please keep in mind that the packet counts for the competition (more
details early next year) will eventually be corrected for this. It will take a while though before we upgrade the statistics to exclude doubles from a single radio amateur. We are very happy if we receive more telemetry packets, but please don't exaggerate the amount of replays as there is not much more to be gained after a few attempts.

Have a nice holidays and a prosperous 2014!

73,
Jasper, PC4JB

Telemetry reception
http://www.delfispace.nl/operations/delfi-n3xt-telemetry-reception

Delfi-n3Xt http://www.delfispace.nl/operations/radio-amateurs

Dnepr Yasny launch http://amsat-uk.org/satellites/dnepr-november-2013/

[ANS thanks Jasper, PC4JB, for the above information]

AMSAT SKN on OSCAR 2014 in Memory of W2LV

You are cordially invited to participate in Straight Key Night on OSCAR 2014, sponsored by AMSAT for all radio amateurs throughout the world.

Operate CW through any amateur satellite from 0001 through 2400 UTC on 1 January
2014, using a manual, non-electronic key. Note that bugs are now allowed, as they are in similar ARRL and SKCC events.

There is no need to send in a log, but please nominate someone you worked for Best Fist. Your nominee need not have the best fist of those you heard, just of
those you worked. Send your nomination to w2rs(a)amsat.org.. A list of those nominated will be published in early February.

This year's event is being held in memory of Robert Morris (1902-1997), W2LV. Bob's amateur and professional career in radio literally spanned the era from spark to satellite. One of the first to work across the Atlantic in 1923, he also received Satellite DXCC No. 2 in 1979. Bob was featured in the PBS-TV documentary, "Empire of the Air."

[ANS thanks Ray, W2RS, for the above information]

Satellite Shorts

+ LITHUANIA, LY. Vilmantas, LY3BY is QRV as LY2013SAT until December
   24 to commemorate the first Lithuanian nano-satellite
   LituanicaSAT-1. QSL via LY3BY. (ARLD050 DX news)

+ Tochigi Science Lion Project was successful.
   15 students asked their question to Koichi. Koichi answered all equations.
   2 or 3 answers were very weak signal.
   280 people where in the audience including media representatives from TV,
   Radio and Newspapers (ARISS)

+ Roland PY4ZBZ reports that the CAPE-2 amateur radio CubeSat responded to a
   "Send Text to Speech" command with "Hello P Y 4 Z B Z" in the voice of Darth
   Vader. Listen to the recording at
http://tinyurl.com/PY4ZBZ-Cape-2-Darth-Vader

[ANS thanks Everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining
donors to AMSAT Project Funds, will be eligible to receive addi-
tional benefits. Application forms are available from the AMSAT
Office.

Primary and secondary school students are eligible for membership
at one-half the standard yearly rate. Post-secondary school students
enrolled in at least half time status shall be eligible for the stu-
dent rate for a maximum of 6 post-secondary years in this status.
Contact Martha at the AMSAT Office for additional student membership
information.

73,
This week's ANS Editor,
Lee McLamb, KU4OS
ku4os at amsat dot org